

XVII.—*A List of the Reptiles and Batrachians of Amoorland.*
By G. A. BOULENGER.

[Plate IX.]

THE recent acquisition by the Trustees of the British Museum, among other examples from the late Dr. J. G. Fischer's collection, of a series of Reptiles and Batrachians obtained by Hr. Dörries of Hamburg on the Ussuri River*, has induced me to publish, in addition to notes on the little-known forms, a complete list of the Reptiles and Batrachians hitherto recorded from Amoorland. This fauna presents an interesting mingling of North Palæarctic (*Lacerta vivipara*, *Vipera berus*, *Rana temporaria*), Central Asian (*Eremias*), Japanese (*Tropidonotus vibakari*), and Oriental (*Tachydromus*, *Coluber taniurus*) types.

REPTILIA.

LACERTILIA.

1. *Tachydromus amurensis*.

Peters, Sitzungsber. Ges. Naturf. Freunde, 1881, p. 71; Bouleng. Cat. Liz. iii. p. 6.

Described by Peters from examples obtained at Kasakewicha, on the Amoor. The following description is taken from four specimens (2 ♂, 2 ♀) collected at Chabarowka by Hr. Dörries.

Snout short, obtuse, its length equal to the distance between the orbit and the posterior border of the tympanum. Granules between the supraoculars and the supraciliaries absent or reduced to two or three; a small shield, sometimes broken up into two or three, separates the large anterior supraocular from the loreal; temporal scales perfectly smooth, 7 or 8 on a line between the orbit and the tympanum; four (rarely five) upper labials anterior to the subocular; three specimens have four pairs of chin-shields, the fourth has five. Large dorsal scales in 7 or 8 longitudinal series, of which the median are smaller than the others; 24 to 27 in a longitudinal series between the axils. Ventral shields smooth, outer very feebly keeled, in 8 or 10 longitudinal and 25 to 28 transverse series. Præanal shield entire in the males, divided or semidivided in the females. Three inguinal pores on each side. Brown or olive above, uniform or with darker

* I had previously described a new genus of Newts, *Geomolge Fischeri*, from the same collection (P. Z. S. 1886, p. 416).

spots, usually blackish on the granular lateral region; with or without a light streak from the eye to the collar; lower parts yellowish or greenish white.

	♂. millim.	♀. millim.
Total length.....	173	151
Head.....	12	13
Width of head.....	8	9
Body.....	44	53
Fore limb.....	19	20
Hind limb.....	25	27
Tail.....	117	85

2. *Lacerta vivipara*, Jacq.

Bedriaga, Abh. Senck. Ges. xiv. 1886, p. 338.

Our common lizard extends right across Europe and Asia, from the Atlantic to the Pacific, north of lat. 43° N. *Vipera berus* and *Rana temporaria* have an almost identical range. Siberian specimens in the British Museum, for which we are indebted to the kindness of Dr. Strauch, are from Padun (River Angara), Stanowoi Mountains (E. Siberia), Nicolawsk (Amoor), and Saghalien Island.

3. *Eremias argus*.

Peters, Mon. Berl. Ac. 1869, p. 61, pl. —. fig. 3.

A specimen of this common North-Chinese lizard, collected by Mr. A. Adams in Manchuria (no precise locality appended), is in the British Museum.

OPHIDIA.

4. *Ablabes rufodorsatus*, Cantor.

Coluber rufodorsatus, Strauch, Schl. Russ. R. p. 79.

Common over the greater part of China, and occurs in Eastern Siberia from Lake Baikal to the Amoor and Posietie Bay. The most northern locality from which we have a specimen in the British Museum is Peking.

5. *Coluber dione*, Pall.

Elaphis dione, Strauch, op. cit. p. 82.

Extends from South-eastern Europe through Central Asia to the Amoor (Barnard, Reinowke), Corea, Peking, and Yesso. The north-eastern specimens in the British Museum are from Peking and the Ussuri River.

6. *Coluber Schrenckii*, Strauch.

Elaphis Schrenckii, Strauch, *op. cit.* p. 100.

This species was described from specimens from the Chingan Mountains (Amoor), Posiette Bay and Wladivostok, and Hakodate in Japan. A specimen from the Ussuri River, received from the Warsaw Museum, is in the British Museum.

7. *Coluber taniurus*, Cope.

Elaphis taniurus, Strauch, *op. cit.*

Its range extends from Novgorodski (*Strauch*) to the Eastern Himalaya, Indo-China, Borneo, and Sumatra. The most northern specimens preserved in the National Collection are from hills north-west of Peking.

8. *Tropidonotus tigrinus*, Boie.

Strauch, *op. cit.* p. 176.

Common in North China and Japan. Recorded by Strauch from Strelok Bay (Peter the Great Bay). A specimen from Gensan, Corea, is in the British Museum.

9. *Tropidonotus vibakari*, Boie.

Strauch, *op. cit.* p. 174.

This common Japanese snake was first recorded from continental Asia by Strauch, whose specimens are from Posiette Bay and Baranowsky on the River Suifin. Two specimens from Chabarowka are in Hr. Dörries's collection, and present the following characters:—

One or two præ- and three postoculars; temporals 1+1+1, or 1+1+2, or 1+2+2; seven upper labials, third and fourth entering the eye; in one specimen the sixth labial on one side is excluded from the labial margin and becomes a temporal. Scales in 19 rows, with distinct apical pits. Ventrals 150, 151; anal divided; subcaudals 59, 60. Uniform grey-brown above, head marbled with black; lips yellowish, with black bars down the suture of the shields; a yellowish black-edged spot on each side of the occiput; lower parts yellowish white, with a series of small brown spots on each side.

10. *Vipera berus*, L.

Strauch, *op. cit.* p. 206.

Extends, like *Lacerta vivipara*, from Europe to Manchuria, as far south as Posiette Bay and Saghalien Island.

11. *Ancistrodon intermedius*, Strauch.

Trigonocephalus intermedius, Strauch, *op. cit.* p. 245.

Inhabits Eastern Siberia, as far west as the Government of Irkutsk, and Japan. Four specimens are in the British Museum, viz. one (*a*) from the River Kunge (from the St. Petersburg Museum), one (*b*) from Sincinogorsk (from the Bremen Geographical Society), and two (*c*, *d*) from Chabarowka (Dörries Collection).

The scaling of these four specimens is as follows :—

	<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>
Labials	7—7	7—8	7—7	7—8
Rows of scales	23	23	23	23
Ventrals	161	166	155	156
Subcaudals	49	45	40	40

12. *Ancistrodon Blomhoffii*, Boie.

Trigonocephalus Blomhoffii, Strauch, *op. cit.* p. 251.

Inhabits Japan, the greater part of China, and Amoorland. In the British Museum from the Ussuri River.

BATRACHIA.

ECAUDATA.

13. *Rana temporaria*, L.

The range of the common frog extends eastwards to Amoorland (Kasakewicha, *Berlin Museum*), and Yesso. The Asiatic specimens in the British Museum are from Ilisk, Eastern Turkestan (*Lansdell*), Sinus Abrek, E. Siberia, and Yesso.

14. *Rana amurensis*. (Pl. IX. fig. 1.)

Bouleng. Bull. Soc. Zool. France, 1886, p. 598.

The original description of this very distinct species, the smallest of the *temporaria*-group, was taken from two specimens from Kasakewicha, on the Amoor, preserved in the Berlin Museum. The following description is based upon nine specimens from Lake Kanka, collected by Hr. Dörries. We have also numerous specimens from Chemulpo, Corea, but in bad condition.

Vomerine teeth in two short oblique series or oval groups behind the level of the choanæ. Head rather depressed, as long as broad; snout rather elongate, rounded, scarcely projecting; loreal region not very oblique; nostril halfway

between the eye and the end of the snout ; interorbital space a little narrower than the upper eyelid ; diameter of the tympanum about two thirds the diameter of the eye ; the distance between the eye and the tympanum equals half or two thirds the diameter of the latter. First finger not or scarcely extending beyond second. Tibio-tarsal articulation reaching the eye ; tibia shorter than the fore limb. Inner metatarsal tubercle small, oval, blunt ; no outer tubercle. Subarticular tubercles small. Toes two-thirds or three-fourths webbed. Skin smooth ; dorso-lateral glandular fold feebly marked. Brown above, dorso-lateral folds edged with darker ; frequently a pair of more or less distinct dark lines along the middle of the back ; loreal and temporal regions blackish ; a whitish streak bordering the upper lip ; lower parts spotted or marbled with brown. Male without vocal sacs ; thumb with black nuptial excrescences.

	♂. millim.	♀. millim.
From snout to vent	44	45
Length of head	14	14
Width of head	14	14
Diameter of the eye	4	4
Diameter of the tympanum	2.5	2.5
Length of the snout	5	5.5
Fore limb	24	26
Hind limb	68	69
Tibia	21	21
Inner toe	4.5	5
Inner metatarsal tubercle	1.5	1.5

15. *Bufo Raddii*.

Strauch, Voy. Przewalski, Rept. and Batr. p. 53 ; Bouleng. P. Z. S. 1880, p. 551.

Known from the Valley of the Amoor, Daouria, Peking, and Chefoo.

16. *Bufo vulgaris*, Laur.

Its eastern range extends over nearly the whole of China and Amoorland and Japan. The differences between European and Japanese specimens, which consist chiefly in the greater size and perfect distinctness of the tympanum, the black lateral stripe, and the deep black spots or marblings of the lower parts in the latter, are completely bridged over by the Chinese and Manchurian specimens. Specimens from Ichang, on the Yangtse Kiang, and Ningpo come nearest the Japanese, from which they do not differ in coloration ;

but the tympanum, although as distinct, is not so large. Specimens from Shanghai, Chefoo, Peking, and Corea are intermediate between the latter and the European; the tympanum is always very distinct, but varies considerably in size; the dark lateral stripe is usually ill-defined or absent, and the belly may be either largely spotted with black or almost immaculate. Judging from the two specimens collected at Chabarowka by Hr. Dörries, the northernmost form is still nearer the European; the tympanum is rather small, but perfectly distinct, the belly is immaculate, and the coloration might be said to be identical with that of European specimens, but for the presence of traces of a light vertebral line, as is often found in specimens from Japan, Corea, and Northern China. The following table shows (in millims.) the variations in the size of the tympanum:—

	Denmark.	Jersey.	Chabarowka.	Corea.		Chefoo.	Ichang.	Japan.	
	♂.	♀.	♂.	♂.	♀.	♂.	♀.	♂.	♀.
From snout to vent.	76	125	65	88	120	87	102	120	132
Diameter of the eye	7	9	7	7	9	7	8	9	11
Diameter of the tympanum	2.5	4	3	3	6	4	5	7	8

17. *Hyla Stepheni*.

Bouleng. P. Z. S. 1887, p. 579, pl. li. fig. 1.

Of this species, recently described from a specimen received alive from Port Hamilton, Corea, by the Zoological Society, two specimens, male and female, from the Ussuri River, are in Hr. Dörries's collection. It is easily distinguished from *H. arborea* by the much larger and more prominent metatarsal tubercle. I give the following measurements of the two specimens:—

	♂. millim.	♀. millim.
From snout to vent.	35	40
Length of head	12	13
Width of head	13	15
Diameter of the tympanum	2	3
Fore limb.	20	23
Hind limb	51	57
Tibia	15	17
Inner toe	4	4
Inner metatarsal tubercle	2.5	2.5

18. *Bombinator orientalis*. (Pl. IX. fig. 2.)

The Oriental form for which I propose the above name agrees with *B. pachypus* in the proportions of the limbs and the absence of gular sacs, and with *B. igneus* in the absence of nuptial excrescences on the toes and the red colour of the lower parts. Nineteen specimens are in the British Museum, viz. :—

- 1-11. ♂ ♀, nupt. temp. Chefoo. Swinhoe.
 12-15. ♂ ♀, nupt. temp. N. China. A. Adams.
 16. ♀. S.E. coast of Corea. A. Carpenter.
 17-19. ♂ ♀, nupt. temp. Chabarowka. Dörries.

Measurements.

	Chefoo.		Chabarowka.	
	♂.	♀.	♂.	♀.
	millim.	millim.	millim.	millim.
From snout to vent.....	52	46	36	40
Head.....	16	14	12	13
Width of head.....	18	16	13	13
Fore limb.....	26	23	20	20
Hind limb.....	61	55	49	59
Tibia.....	18	16	15	15
Foot, from inner metatarsal tubercle	16	15	14	14

The upper surfaces are usually as coarsely warty as in *B. pachypus*. As in *B. igneus*, the upper parts are always spotted or marbled with darker and show no trace of the four light spots of *B. pachypus*; the ground-colour varies from a dull olive with few and somewhat ill-defined darker spots to a bright green handsomely spotted or marbled with deep black. Lower parts blood-red, spotted or marbled with deep black, usually neither of the two colours predominating; no white dots on the belly; tips of fingers and toes red.

The distinctive characters of the three species of *Bombinator* may be analysed as follows :—

	Crus.	Gular sacs.	Nuptial excre- cences.	Belly more	Tips of digits.
1. <i>igneus</i>	Shorter than foot.	Present.	None on toes.	Red.	Black.
2. <i>orientalis</i> }	At least as long as foot.	Absent.			
3. <i>pachypus</i> . . }			On toes.	Yellow.	Bright.
				11*	

From this analysis we see that *B. orientalis*, although intermediate between *B. igneus* and *B. pachypus*, is on the whole nearer the latter. So far as we know, the enormous area separating the habitats of *B. igneus** and *B. orientalis* does not seem to be tenanted by any form of the genus *Bombinator* or any other Discoglossoid.

C A U D A T A.

19. *Salamandrella Keyserlingii*.

Dybowski, Verh. zool.-bot. Ges. Wien, 1870, p. 237, pl. vii.
Isodactylum Schrenckii, Strauch, Salam. p. 56, pl. ii. fig. 1.

Lake Baikal, Schilka and Ussuri Rivers. Specimens from Chabarowka are in Hr. Dörries's collection.

20. *Geomolge Fischeri*.

Bouleng. P. Z. S. 1886, p. 416, pl. xxxix. fig. 2.

The only specimens known of this very remarkable Salamandroid are the two types obtained by Hr. Dörries at Chabarowka.

XVIII.—*Notes on some Heliozoa*. By M. EUG. PENARD †.

THE Heliozoa are most frequently met with in the fresh water of pools, peat-mosses, and brooks. Although these organisms were observed during the last century (Joblot, O. F. Müller, Eichhorn) it is only within about thirty years that they have been well known. Classed for a long time with the Infusoria, they were grouped by Hæckel in 1866 into a special subclass. By their particularly elegant forms and their whole organization the Heliozoa, by showing us to what degree of differentiation a simple Rhizopod may attain, fully deserve the interest which has attached to them, and it is to them that I would for a moment call attention.

These animals are in reality only Rhizopods; but while in

* Not recorded east of the Ural. *B. pachypus*, which inhabits the plain in the west of Europe, appears to be exclusively a hill-form in the east; it is not known from Russia.

† Communicated to the Société de Physique et d'Histoire Naturelle de Genève, 3rd October, 1889; Bibl. Univ., 'Archives des Sciences Physiques et Naturelles,' tome xxii. pp. 523-539.